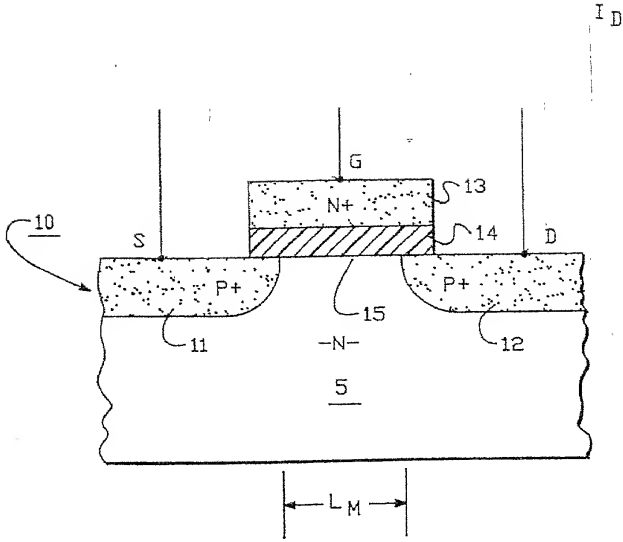


FIGURE 1

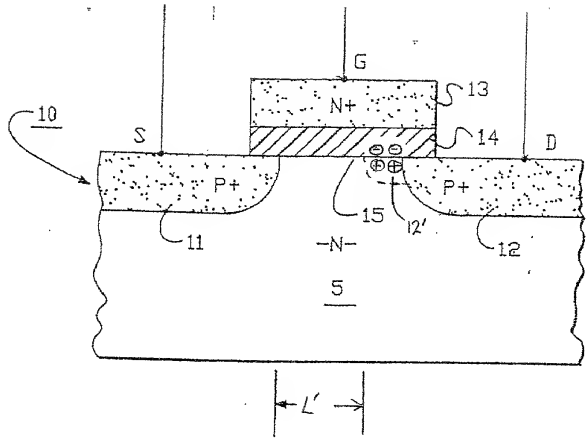


FIGURE 2

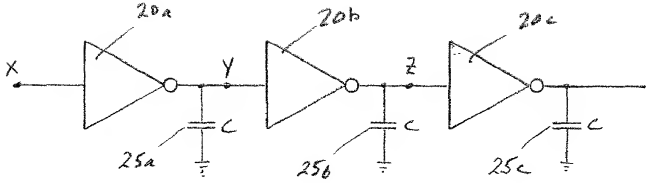


Figure 3

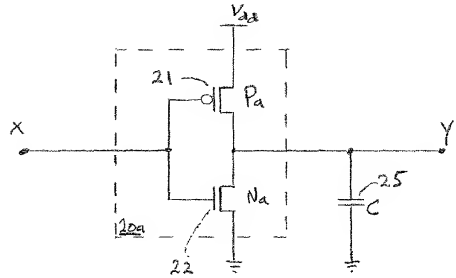


FIGURE 4

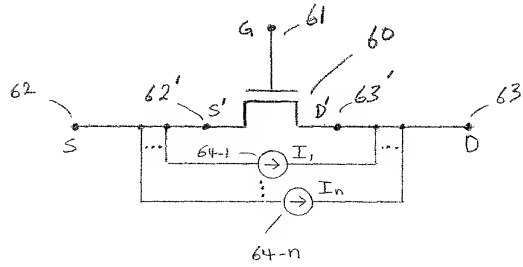


FIGURE 6

TOTTHO" 2262260

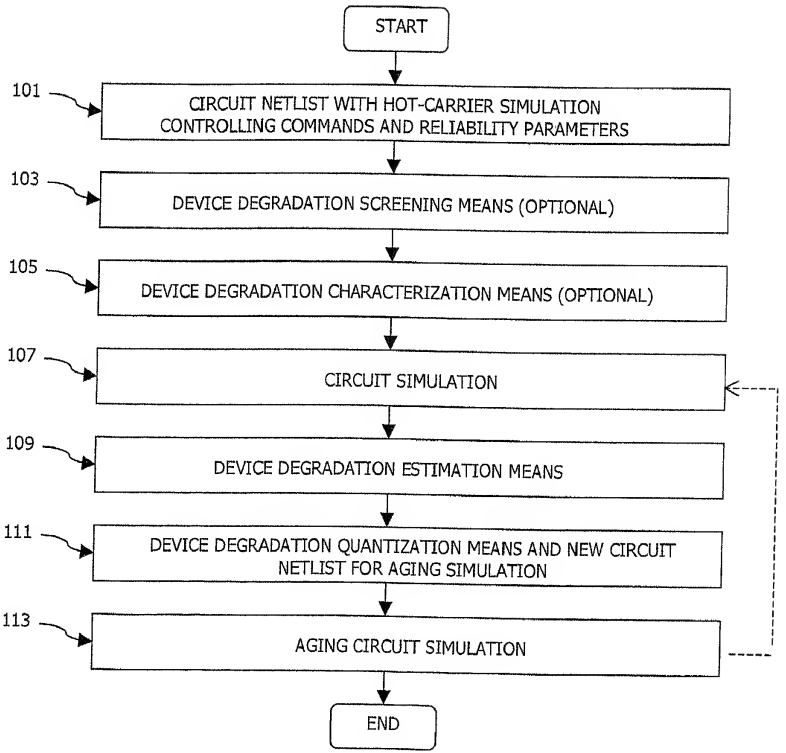


Figure 5

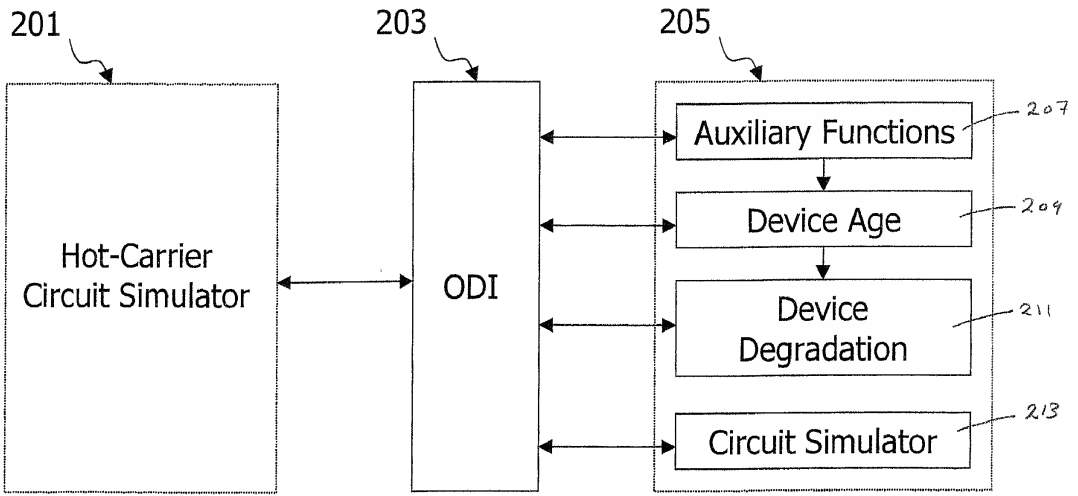
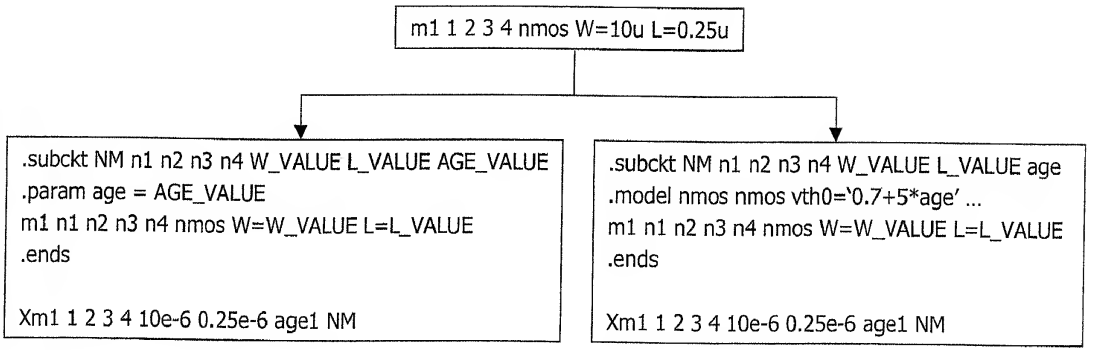

201
203
205
Hot-Carrier Circuit Simulator
ODI
Auxiliary Functions
207
Device Age
209
Device Degradation
211
Circuit Simulator
213

Figure 7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.param age = AGE_VALUE
m1 n1 n2 n3 n4 nmos W=W_VALUE L=L_VALUE
.ends
Xm1 1 2 3 4 10e-6 0.25e-6 age1 NM
.subckt NM n1 n2 n3 n4 W_VALUE L_VALUE age
.model nmos nmos vth0='0.7+5*age' ...
m1 n1 n2 n3 n4 nmos W=W_VALUE L=L_VALUE
.ends
Xm1 1 2 3 4 10e-6 0.25e-6 age1 NM

Figure 8